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FACTORS CONTRIBUTING TO FACULTY AND STUDENT ACCEPTANCE OF INSTRUCTIONAL TELEVISION, TEMP II.

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PERTINENT FACTORS WERE DELINEATED IN THE ACCEPTANCE OR REJECTION OF TELEVISED INSTRUCTIONAL PROGRAMS USED WITH THE TEXAS EDUCATIONAL MICROWAVE PROJECT (TEMP)--AN EFFORT LINKING 11 COLLEGES AND UNIVERSITIES BY MICROWAVE TRANSMITTERS TO PROVIDE AN INTEGRATED CLOSED-CIRCUIT TELEVISION SYSTEM. DATA-GATHERING INSTRUMENTS WERE INTERVIEWS, QUESTIONNAIRES, AND STANDARDIZED TESTS. ANSWERS WERE SOLICITED FROM ADMINISTRATORS, FACULTY MEMBERS, AND STUDENTS.MANY RESULTS OBTAINED WERE FAVORABLE. NO GENERAL ENTHUSIASM WAS DEMONSTRATED, HOWEVER, BY EITHER STUDENTS OR FACULTIES FOR THE USE OF INSTRUCTIONAL TELEVISION, NOT BECAUSE OF THE INADEQUACY OF THE COURSES OFFERED, BUT BECAUSE OF TELEVISION'S "IMPERSONAL" NATURE. OTHER REPORTS IN THIS SERIES ARE ED 003 734 THROUGH ED 003 737. (JH)

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TEMP

Texas Educational Microwave Project

Factors Contributing to Faculty and Student Acceptance of Instructional Television

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U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education
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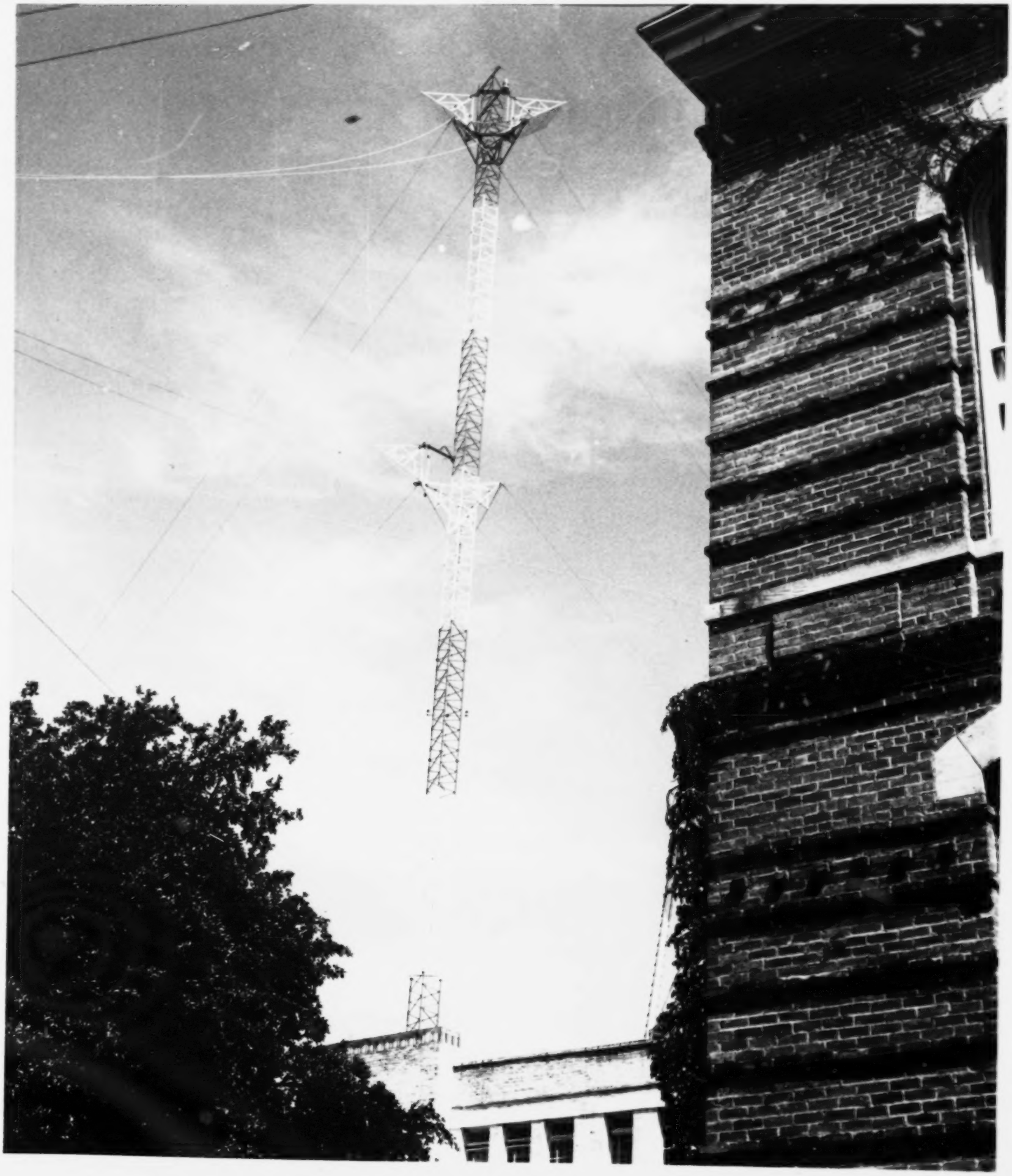
Tall "T" for TEMP rises from the campus of Southwest Texas State College, one of the eleven participating institutions in the microwave network, located in San Marcos, Texas



FACTORS CONTRIBUTING TO FACULTY AND STUDENT ACCEPTANCE OF INSTRUCTIONAL TELEVISION

I Scope and Purpose of the Present Study

A. General Focus: A Study in Acceptance

The present study was designed and executed for the purpose of delineating factors in the acceptance or rejection of televised instruction in institutions participating in Texas Educational Microwave Project (TEMP).

1. Institutional Factors in Acceptance

Two pertinent questions which are scantily treated in the literature are: a) what kinds of educational institutions are most receptive to instructional television, and b) what institutional factors influence the acceptance of televised instruction and create the perception that it is useful. Research exploration was done into the appreciable differences among the various participating institutions seeking tenable and testable hypothesis to these questions.

plural?

The present study succeeded in demonstrating the existence of these institutional differences, but was unsuccessful in circumscribing variables involved.

2. Faculty Acceptance

Teachers differ widely in their degree of acceptance of instructional TV, and the evidence shows the prevalence of more negative than positive feeling for televised teaching procedures. An understanding of these attitudes, their roots and the socio-psychological factors related to them is necessary if television teaching is to be adopted or adapted to the requirements of most college teachers.

3. Student Acceptance

Individual students differ widely in the degree of acceptance of the idea and the actuality of television instruction. A guiding assumption in the present study has been that we need to understand the strength of the student's positive and negative feelings about televised instruction, but that is not enough. We need also to know the quality and form of these feelings and the relationship the student establishes with instructional television (ITV).

4. Educational Effectiveness

On the basis of evidence in the literature, it is obvious that instructional television is no less effective than other educational procedures. This hypothesis holds true when tested by any known procedure for measuring educational effectiveness. The present study did not concern itself therefore with replicating this definitive work. Established experts in this field will be cited at length to document this conclusion.

B. General Research Procedures

1. Interviews

Interviews were conducted with the administrator primarily responsible on each campus for the local television project. This was done in the Spring, approximately a full semester after TEMP operations had begun. In addition, other interviews were conducted with about half of the instructors actually teaching on TEMP; with instructors who were only teaching conventially on TEMP campuses and with instructors not in the TEMP area, but who had extensive experience in ITV.

The interviews are useful as a basis for insights into gross advantages and disadvantages as well as fields of potential gains in the use of intructional television.

2. Questionnaires

As a result of the teacher interviews, enough insight into relevant questions was gained to enable researchers to construct a questionnaire. This questionnaire was distributed to all teachers monitoring the TEMP courses near the end of the first full semester. At the same time, a student questionnaire was distributed to every instructor on the network with the request that his students return the completed form to the research office. The 1845 questionnaires returned were subjected to extensive analysis.

Also administered was a questionniare designed to assess the effects of initial exposure to a ITV subject, with particular reference to student attitudes. Psychology students who had heard a teacher lecture on the subject in the morning were asked to view a television program on the same subject in the evening. Before seeing the TV lecture, they were asked to fill out an elaborate form designed to subjectively establish their attitudes about the educational quality of television. Immediately after the program they completed the form.

In 1961, a questionnaire entitled, "Openess to New Experience" was administered to several hundred undergraduate students. Scores were related to a scale on: a) attitudes about televised instruction, and b) expressed willingness to take televised courses. The resulting data related personal attributes to the student's feelings toward instructional television.

3. Standardized Tests

In the Spring of 1962, a class of University of Texas students were given an adaption of the Osgood Semantic Differential form. The test dealt with the meaning of concepts that would come up in the section of the study of personality in the televised psychology course. Purpose of the study was to ascertain whether the semantic differential technique might yield results on the effects of education just as meaningful as the results yielded by the conventially employed achievement tests.

II Summary of Relevant Research on Educational Effectiveness of ITV

Perhaps the quickest way to summarize the general tenor of research on educational effectiveness of ITV, is to quote the summary statements of established experts in the field.

C. R. Carpenter, director and researcher on ITV at Pennsylvania State University presented the following thoughts in a statement to the 1958 ITV Conference sponsored by the American Council of Education. "The most challenging timely information which we have uncovered in controlled experiments in educational television is that 'no significant differences' in student achievement have been revealed in our comparisons between instruction and conventional direct teaching..."

John Ivey said at the same conference, "...we have done sufficient research so that we do not have to go over the same old ground of replication and duplication before we take the big step of putting instructional television directly into our concept of higher education, and for that matter into elementry and secondary education. (Ibid pp 160-161)

A. Recent Studies of ITV

Studies of matched groups of students were conducted at Pennsylvania State University in the properly controlled manner whereby both groups of students were taught by the same instructor in person and on TV. Report number 2 from this series of studies gives results like

these for specific courses:

General Psychology: no statistical differences (n. s. d.) in retention test scores between students taught directly and by television.

General Chemistry: n. s. d. in test scores for first term freshmen ITV students and conventionally taught students.

Elementary Business Law: n. s. d. between students taught: a) directly, b) by ETV only and c) rotated between direct and televised teaching.

Introductory Psychology: n. s. d. for students taught by TV and by conventional methods.

Music Appreciation: students taught directly did not differ in listening comprehension or in tests on factual information.

In addition to the objective test which was the primary measuring device in the Pennsylvania State studies, we find that student attitude changes were also studied.

The Miami University study yielded essentially the same results as did the Pennsylvania study, differing only in the more extensive use of tests designed to assess ability to solve problems before and after taking courses. On the latter tests and on the more objective ones, the results showed a preponderance of n. s. d. relationships.

The Oregon study also measured long term retention of material. The results showed n. s. d. after two year periods in the amount of information retained in small classes, in large classes and in televised classes.

Another interesting aspect of the Oregon study was the use of the standard national achievement test in chemistry produced by the American Chemical Society to assess the effectiveness of various kinds of television presentations. These were compared with a conventional course in chemistry. The television sections of the chemistry course included lecture, lab and exams, and involved only four fifty minute periods per week. The other groups received an average of 6. 7 hours of lecture and lab instruction per week. Achievement test scores on the American Chemical Association exam were higher on the grade distribution than were the television sections.

The report also shows that the chemistry students were particularly negative in their attitudes toward televised instruction at the beginning of the course, which indicates the achievement gains were made under negative learning conditions.

1. Research on Class Size

Almost any college teacher will state the conviction that small

classes will almost always be superior to large classes in general educational effectiveness. Research evidence does not clearly support this conviction. In an extensive study at the University of Minnesota, (Dudekon 1928) achievement tests were used to measure the effectiveness of classes of various sizes. Large classes were found most frequently to be more effective than small ones. More recently, Rohrer (1957) showed there were n. s. d. on achievement tests between large and small classes.

2. Lecture versus Discussion Procedure

McKeachie (1926) summarizes the literature dealing with the comparison of lectures and discussion methods of teaching. He takes the general position that lectures are generally superior for the presentation and learning of information, but that discussion procedures seem to be more effective in achieving what he calls "higher level objectives" including problem solving ability and attitude change.

In comparing lecture procedures with discussion procedures, we do not know the actual variables involved in the comparison. The same general statement holds for questions of class size. Clarence Faust (1958) makes the point of relevance for the comparison of lecture procedures with other educational procedures. He says, "The essence of this process of education is not communication from the teacher to the students, but the stimulation of minds by other minds or the stimulation to engage in that internal dialogue by which other minds bring conflicting ideas to confrontation within the learner's mind. Thus in some measure the resolution we call knowledge or wisdom takes place."

3. Student-centered versus Teacher-centered procedures

Student centered classes are similar to classes taught by the discussion method. Students are given more responsibility, are engaged in more activity and are encouraged to use the teacher not as a source of final authority but as a resource for problem solving.

By contrast, teacher-centered classes are those in which the teacher does most of the talking, serves as an authority and lays out well organized presentations of facts and problems in his field.

In summarizing a dozen or more studies on student-centered versus teacher-centered classes, we find the following concurring facts:

a) student-centered classes are not superior to teacher-centered

classes in terms of the commonly used measures of academic achievement.

b) student-centered classes generally yield more satisfaction to students than do teacher-centered classes.

c) student- centered classes most frequently result in more insight into other people's behavior and in more gain in general adjustment of the student.

There are studies showing superiority of the student-centered classes in adjustment as measured by such instruments as the Minnesota Multi-Phasic Personality Inventory. Other studies cast some doubt on these findings, however. Research by Gustskow, Kelley and McKeachie (1954) indicates that a more autocratic recitation method (teacher-centered) produces final examination superior performance, and also an increased interest in the subject as measured by election of advanced courses in the same field.

4. The Active-Passive Variable as It Affects Learning

One frequently heard criticism of televised instruction concerns the variable of activity-passivity. The common perception is that television renders the students more passive and diminishes the likelihood that he will become actively involved in any learning process. Based on this assumption, we hear teachers say that the passive student will not learn. The evidence of the comparative effectiveness of televised instruction does not bear out such an interpretation, but the activity-passivity question remains a matter that needs examination.

Another aspect of this variable concerns the readiness of students to pursue an organized and relevant class discussion. It may be a good thing for students to engage in active discussion in class, but the discussion should be based on knowledge, and the questions based on the pursuit of knowledge. Frequently these conditions are not present in introductory courses and with freshman or sophomore students.

5. The Personal Touch

Both teachers and students seem to believe that personal contact is of vital importance for achieving educational goals. The most frequently noted disadvantage of televised instruction in all studies relates to the impersonality of the medium.

Teachers who have presented their courses over television almost always report that they miss feedback from their students. They

seem to feel lost without the opportunity to read student expressions, to estimate to what extent they are actually communicating with the class.

Students in reacting to the idea of televised instruction almost always perceive it as an impersonal thing.

Evidence that personal contact has little effect upon educational effectiveness comes from Klapper ( ). A group of freshmen students enrolled in a television course were divided into four groups, each with a different discussion leader. Two of the groups had graduate students for discussion leaders. Leader of the third group was a faculty member who also presented a number of the televised lectures. The fourth group was led by the faculty member who presented the majority of the television lectures. Thus two of the groups had no personal contact with the televised lecturers, while the latter two groups had different amounts of personal contact.

On uniform exams the section having contact with the lecturer who was most often televised did no better than sections having no contact. The highest scoring class was one led by a graduate student which monitored the course on ITV. At the end of the course, 11% of all the students thought the TV course was too impersonal, while 53% said the course brought the instructor closer to the students. Seventy-four percent expressed a desire to take another TV course.

6.Student Motivation

I t is clear that the student's pattern of motivation has a direct bearing on his performance in any kind of academic setting and under any kind of teaching procedure. There are students motivated to achieve whatever the task and the environment. There are others who are motivated simply to get their grades and get out of college. The question of the student's motivation and his acceptance of responsibility for his college program of work, has a bearing on his tolerance for and his profit from instructional television.

Data bearing on the question of students' willingness to take responsibility for their own education is furnished by the studies at Pennsylvania State University. A total of more than 200 students were randomly distributed in five classrooms operating under one of the following conditions:

a) No supervision except that the teaching assistant recorded

TEMP is officially launched as Glenn D. Sawyer, Video Recording Engineer cues up tape for first day of actual operation.

attendance in each of two of the classrooms, then left the class.

b) Partial supervision by a teaching assistant who monitored the class and recorded attendance during one-half of the class period in each of two TV classrooms.

c) Fulltime supervision by a teaching assistant who recorded attendance and was always present during each class period.

On achievement tests, there were no significant differences found between the students in the three classroom situations.

7. Summary

The major implications of the research reviewed may be summarized in four statements:

a) There is no longer room to doubt that instruction by televison can reach a very high degree of educational effectiveness.

b) It is questionable that variations of any kind in classroom procedures will make a major difference in the educational achievement or personal development of college students.

c) Factors involved with the effectiveness of education, are not as related to classroom variations of procedure as are the feelings of security and satisfaction of the teachers and students.

d) The future acceptance and development of ITV will depend on factors other than a consideration of evidence on its effectiveness as an educational procedure.

III Faculty Reaction to Televised Instruction

A. Examination of Literature

1. Attitudes

A primary assumption guiding the planning of the present research concerns the significant role of faculty acceptance in the future, of ITV. In dealing with the whole topic of faculty reaction to instructional television the following presentation will deal first with available research data on faculty reactions.

In a number of studies involving faculty orientation to television instruction, the general analysis have shown:

Faculty members in a variety of institutions, tend to be opposed to televised instruction as an educational procedure, and to be dubious about its educational worth, particularly before they have had first hand experience with it.

At Pennsylvania State University, at the beginning of a large

scale program of televised instruction, only 28% of the faculty recorded themselves in favor of using television instruction to alleviate large increases in enrollment. At the same time, 37% favored increase in class size as a way to face the related problems of enrollment increases.

The Penn State faculty was asked about their perception of the quality of TV instruction as compared with direct instruction. Fifty-two percent of the faculty thought that TV would be worse, 10% felt it would be better and 33% thought it would be about the same. Sixty-four percent of the faculty expressed the belief that the use of TV would have a great deal or at least some adverse effect on the quality of education.

After a two year involvement with an experimental program in the state of Oregon (Starlin and Lallas, 1960) the percentage of the faculty saying that instructional TV was either an excellent or a pretty good approach to teaching varied from 75% at one institution to 42% at another. The figures for the two other institutions in the program were 62% and 58%.

At Penn State, the faculty was questioned both before and after a two year use of ITV on the campus about their preference for televison as a device for coping with the increased enrollment problem. In the two intervening years from 1955 to 1957, the preference had increased from 28% to 34%.

It seems thus a sound conclusion on the basis of these and other data that exposure to educational television will reduce some of the unfavorable attitudes expressed by faculty members.

The individual teacher's basic orientation to his own role, his general feelings toward students, his general commitment to the academic enterprise and the biased dimensions of his personality have, of course, a direct bearing on his readiness to accept or reject innovations in teaching and particularly ITV.

Evans (1962) summarizes his data on characteristics of pro-TV professors and anti-TV professors in this manner:

a) The pro-TV professor evaluates more favorably, concepts removed from his immediate educational realm.

b) The pro-TV professors were less highly committed to traditional approaches to instruction.

c) The pro-TV professor was less "professionalistic" and less academically centered than the anti-TV professor.

d) The pro-TV professor is characterized as being

relatively flexible, mobile and sophisticated in thinking and teaching. He is interested in a wide range of questions which transcend the boundaries of the university as an institution.

e) Evans describes the anti-TV professor as one "who prefers to restrict himself to questions and events relevant to and revolving around the academic framework. Questions which have the most intrinsic value are those which concern his relation ship to his professional environment."

Data show that few if any faculty members feel that television had advantages for upper division courses or for graduate courses or for courses where there is a possibility of maintaining the intimacy of mental contact between students and teachers. By far the most widely expressed concern about ITV is its impersonality. The only perceived and frequently expressed advantage over conventional teaching methods is that ITV can make demonstrations and experiments more highly visible to more people.

2. Socio-psychological Aspects of College Teacher's Roles

Much of the inital resistance to ITV as a procedural innovation derives from the roles, motives, positions and conflicts experienced by college teachers. Some of the obvious relationships of the teacher's roles and his willingness to accept ITV are enumerated:

a) The teacher occupies a generally inferior social position in the society at large.

David Katz(1926) cites Bertram Russell's statement comparing modern teachers with the highly educated Greek slaves who were required to teach the Imperial Romans. Maslow (1954) has shown that physiological, psychological and social deficits must be satisfied by the individual before exploration, creativity and adventure can occur. Increasing evidence in the general psychological literature supports this formulation.

b) The college teacher is somewhat removed from social processes.

Katz also points out that teachers accept themselves as being a little apart from the general stream of life. He notes that a possible factor in this general subordinate position in society may be the fact of economic reality. Few professors can afford to pay for the

symbols, the rituals or the realities of status required to be a member of the higher echelons of society.

c) The teacher's life is centered in the academic setting.

Teacher's contacts, rewards, threats and concerns tend to be confined to events on the campus or to events occurring in the world limited to their academic disciplines. Evans et al (1962) has shown that the deeper the involvement with the norms, the structures and the procedures of the academic world, the more likely is a teacher to be negative in his attitude toward ITV.

d) The teacher is caught up in a competitive hierchy.

Although the stereotype of the college teacher is the calm secure, inner-directed and scholarly individual with the primary goals of advancement and dissemination of knowledge, there is evidence of a contrary image. Logan Wilson (1942) described the situation as follows:

> "Regardless of whether the academic man is in a major or a minor university, his need for security as well as his institutionally induced ego demands, provide the push from within and the pull from without toward socially valued norms... In brief, the scholar-scientist is competing against all others in his immediate field for status in a wider arena, and also for status among his local colleagues to gain their acclaim and to secure administrative recognition."

e) Teachers are caught up in career patterns that denigrate the role of teaching.

In the general academic world, the pattern of rewards and of status, put great premium not on teaching, regardless of the lip service given that function, but on other kinds of performances. Katz (1962) points out that most faculty members whether in small or large institutions accept as their ego ideal some leading figure in their professional field, with the leading status being defined almost always in terms of written contributions.

Katz (op cit) has pointed out that teachers repeatedly go to class unprepared, not inknowledge, but for communication. Few if any college teachers have ever had any formal training or have ever

Texas pioneers get debriefed by TEMP project coordinator. Dr. R. C. Norris, minutes after the first TEMP "feed" to one hundred freshmen math students. Monday, September 18, 1961.

been through any formal process of being judged on their competence for teaching.

Again, we may find the teacher vulnerably open to threat by innovation. He does not want to hear or engage in any discussion of teaching. He may privately suspect that an open examination on teaching techniques will turn up deficiencies in his own procedures, and he suspects that remedying these deficiencies will be disruptive to his general pattern of existence.

f. Teachers overestimate the importance of events occurring in the classroom.

Whether an undergraduate teacher in higher education works inordinately hard at his pedagogical tasks or works as little as possible, he is very likely to overestimate the importance of events that transpire in his classroom. There are not many teachers who would remember with pleasure the study of Parsons, Ketcham and Beach (1958) in which a third of the class was invited to not attend lectures , and then performed as well as the students who attended either a large lecture session or a small discussion class of the same course. Vital events can and do transpire in the college classroom. But to expect that every discussion or every paragraph of crisp exposition will make a unique contribution to the student's development is to base teaching efforts on sheer delusion.

B. Research on Temp Faculty

1. Teacher's View of Teachers

Data in Figure III B 1. relates to the orientation and general role of TEMP teachers who monitor the televised programs.

The sample of 51 usable questionnaires contained 15 teachers with the PhD. and 37 without the degree; 10 from a large state university and 41 from the other 10 institutions; 42 who were full time teachers and 9 who were part time.

15
37
52 ?

Our sample perceives themselves as teachers, primarily, and not as teachers secondary to research or administration. They have a relatively high agreement that the most important functions of a teacher are, a) promoting thought rather than covering content, and b) stimulating interest rather than expounding material.

An additional point is that our 51 teachers very probably have not had any experience with any interpretation of the college teacher's role other than the one reported upon here. They probably teach as they were

taught. The pedagogical role they play is an ingrained and traditional one. Neither in their academic training nor in their professional experience has there been any pressure or even an opportunity to experiment with alternative ways of enacting the teacher's role. (see Fig. III B 1) Page 15

2. Reactions to Specific TV Courses

The material in Figure III B 2 bears on each teachers general concern to his specific course. There is a concensus that the TV instructors knew their subjects and had high standing in their respective fields. There was also general agreement that the TV instructor's ability was excellent. Be yond this, the teachers had very few kind words for the TV course with which they had concrete experience. They seemed sensitive to the fact that they had no participation in the development of the course and not even very much participation in the decision that the respondent be assigned to monitor a TV section. They reported not much tendency to feel useful in the monitor's role and not much satisfaction as a "reserve" teacher. (see Fig III B 2)

next according to Fig III B2 p. 16

3. Comparisons of Lectures and TV Presentations

Figure III B 3 presents data obtained when our 51 monitoring teachers were asked to make direct comparisons between lectures and TV presentations. We found high agreement in Fig. III B 2 that the TV teachers had excellent knowledge and high professional standing. In Fig III B 3, however, when a specific TV course is compared with a lecture course the lecture course is chosen by the monitoring teachers by a large margin. The teachers say the ITV presentations as better in only three of the nineteen comparisons requested:

a) completeness

b) organization

c) thoroughness of preparation

Lectures were judged superior in the other 16 comparisons, with the most favorable judgements dealing in the dimensions of:

a) humor

b) student's attention

c) personal rapport

d) student's committment to involvement

(see Fig III B 3)

4. Advantages and Disadvantages of Televised Instruction from the Teachers Viewpoint.

Tables III B 4 a and III B 4 b contain the tabulated data from the two free response questions in which the teachers were asked, "On the

basis of your experience with televised instruction, what would you say are its chief advantages?", and later on the same page, "its chief disadvantages?"

The 51 useful returned questionnaires reported a total of 107 advantages and 94 disadvantages. Two most frequently cited advantages are:

a) that courses seem well organized, instructors well prepared, the presentation in general is clear and concise and understandable.

b) that visual aids were good.

Other than these comments and the fact that some respondents thought that the class got better teachers via televised instruction, little advantage was seen by these teachers.

Disadvantages cited by the teachers for ITV demonstrated a wider variety of unhappiness with this method of instruction.

Most frequent disadvantage cited (by 33 out of 51) was the teachers' perception of impersonality of the medium. This frequent mention of impersonality of television instruction ties in both with research in other studies which attests to the desire for more student-teacher contact, and with out earlier results showing that the teacher derives a stimulating psychic income from the contact. (See Tables III B 4 a and III B 4 b)

5. Institutional Affiliation and Reaction to Televised Instruction

Data in Figures III B 5 a and III B 5 b present information bearing on the way in which ten teachers at a large state university compare with 41 teachers at the other and smaller institutions in their views of themselves and their roles. In only two of the items are the differences between the groups statistically significant. These differences occur in Item 49, "Your own most important role as a staff member," in which "Teaching" and "Research" represent the polar ends of the scale; and in Item 60, "Total time you devote to teaching," with "Little" and "Most" at opposite ends of the scale. It is clear that teachers in smaller institutions are more inclined to regard their most important function as that of teaching. They so report that they spend more time at the teaching function. There are relatively small differences with respect to other role concepts and expressions of attitudes between the two groups. (see Fig. III B 5 a and III B 5 b)

6. Academic Degrees on Instructors and Their Attitudes

TEMP instructors were for research purposes divided into a group

Figure III B 1

Responses of 51 Monitoring Faculty Members on Items Pertaining to Perception of Own Role and Function

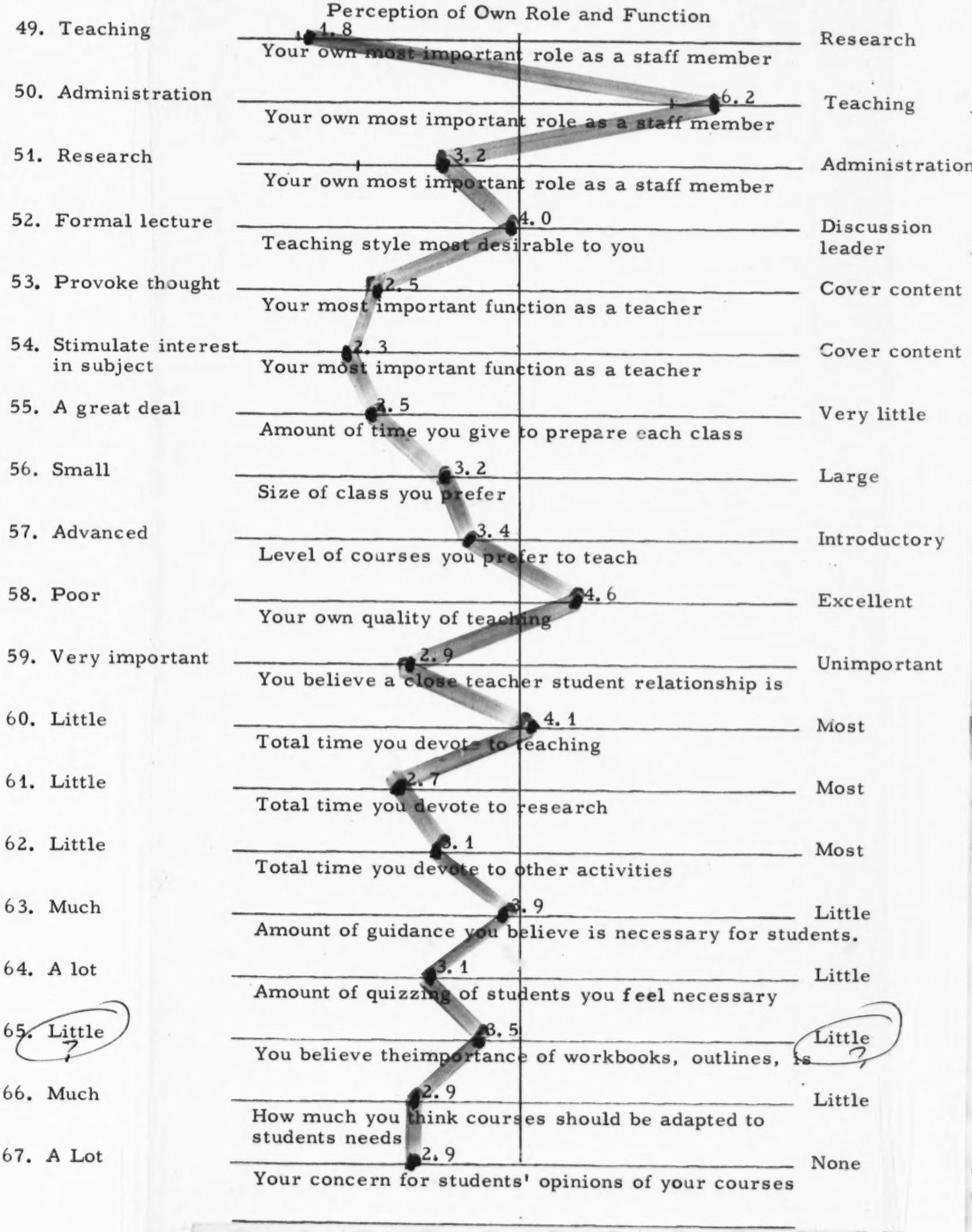


Figure III B 2
Specific T. V. Course

The following items relate to the particular T. V. course for which you are assigned on your campus. Follow previously outlined procedures.

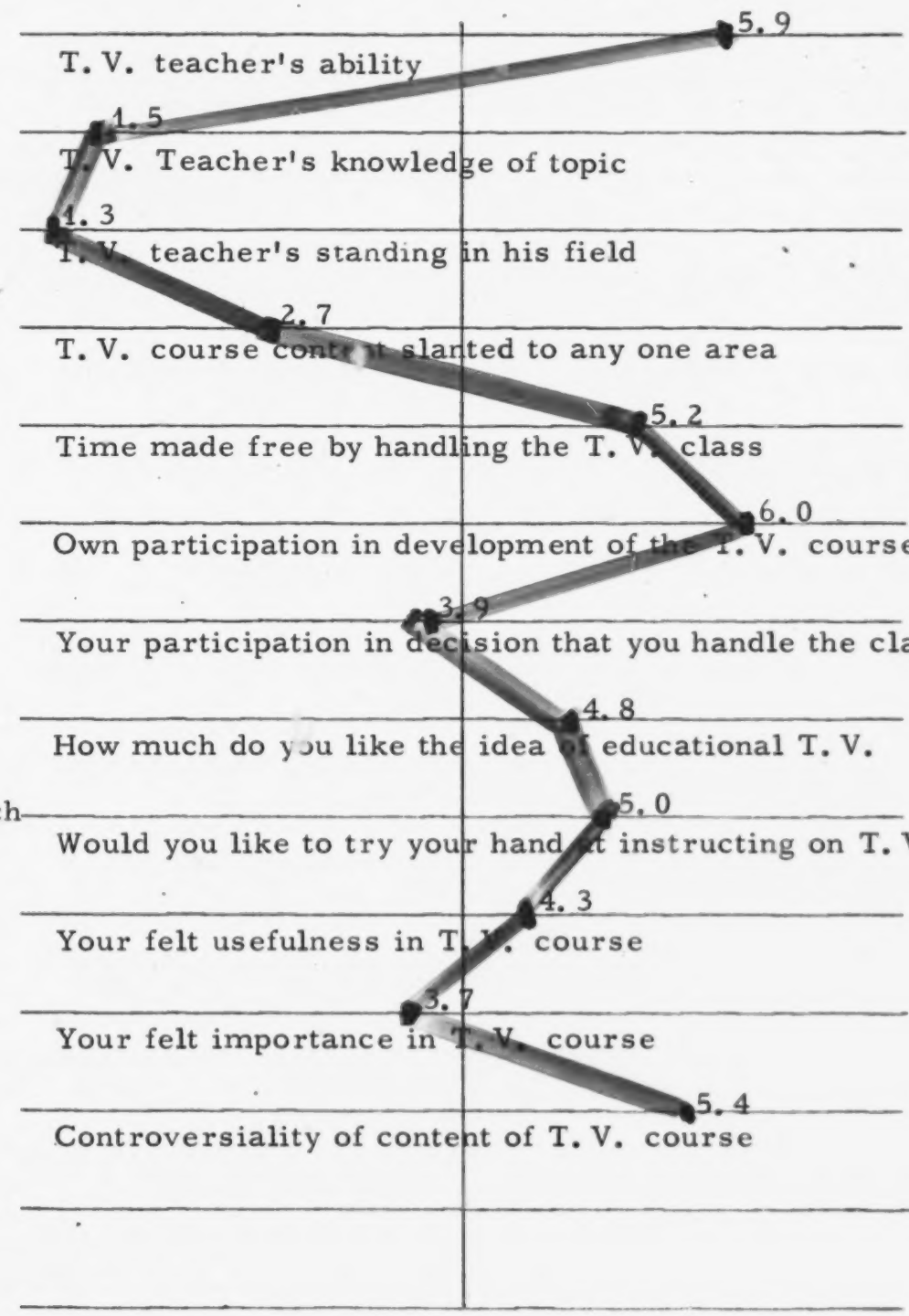


Figure III B 3

Compare the T. V. course with which you are connected with a lecture course in the same subject by a competent lecturer.

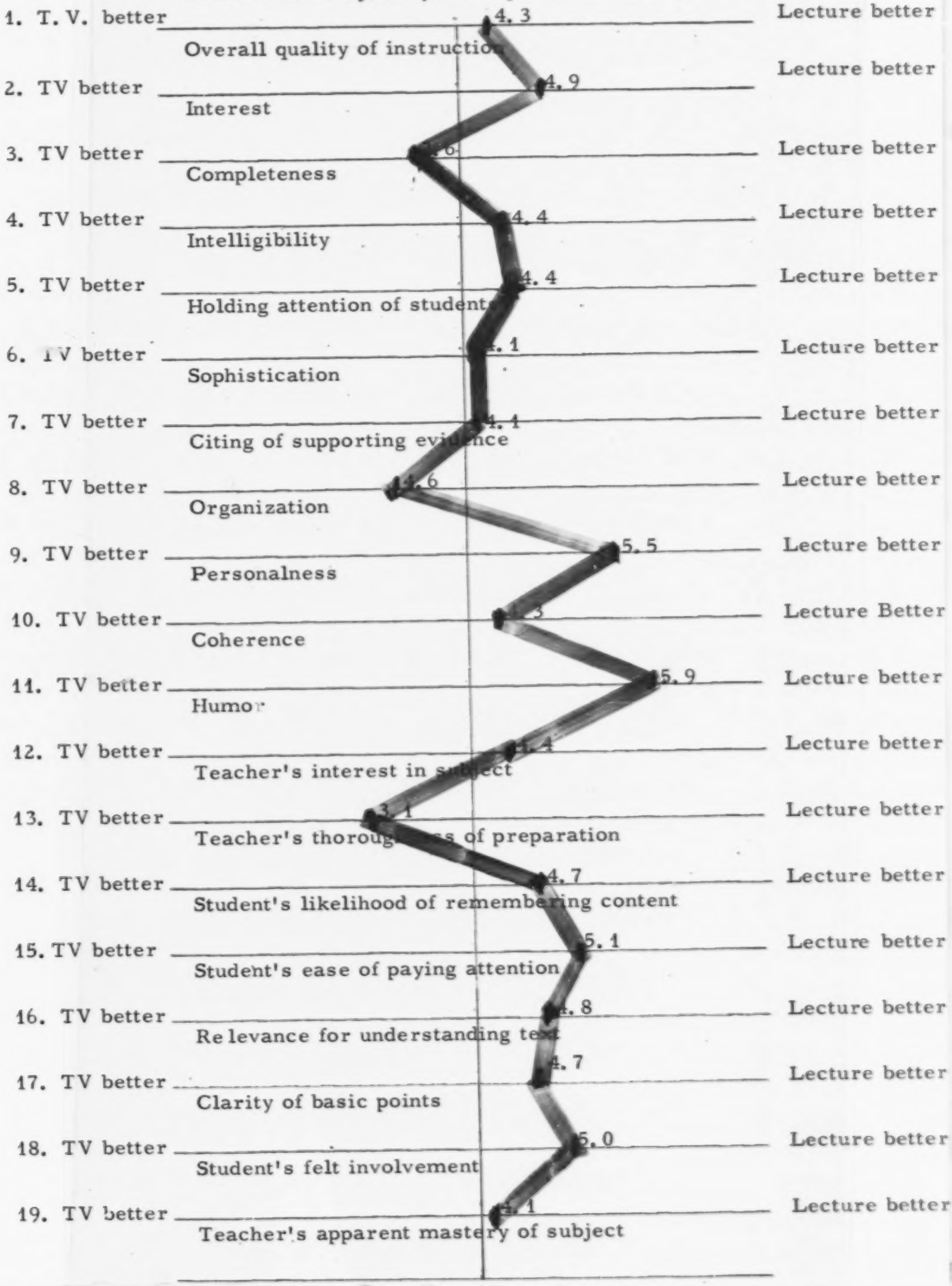


Table III B 4 a

Tabulation of Free Responses: Advantages of Televised Instruction

Advantages	No.	%
Instructor better prepared, greater clarity, better organization, etc.	24	22.42
Visual aids good	23	21.49
Efficient, uses available time, no tangents, co-ordinated	8	7.47
Easy to follow, attention better	3	2.80
Economy, saves time and labor	10	9.34
Get better teachers	24	22.42
Easier for students	0	0
Uniformity, same course for all students, no biased instructors	2	1.86
Thoroughness of coverage	3	2.80
Miscellaneous	10	9.34
Totals	107	99.94

n = 51 Instructors

Table III B 4 b

Tabulation of Free Responses : Disadvantages of Televised Instruction

Disadvantages	No.	%
Impersonal, general	19	20.21
Impersonal, teacher can't react to student	14	14.89
Impersonal, student can't react to teacher	12	12.77
Students can't ask questions when they arise	16	17.02
Bordeom, attention drifts	8	8.51
Too fast	6	6.38
Technical difficulties--set breaks down, picture poor, sound poor	17	18.09
Text anxiety	0	0
Third hour difficulty (local instructor disagrees)	2	2.13
Totals	94	100

n = 51 instructors

Figure III B 5 a

Please record your feelings about YOURSELF and your role as a teacher

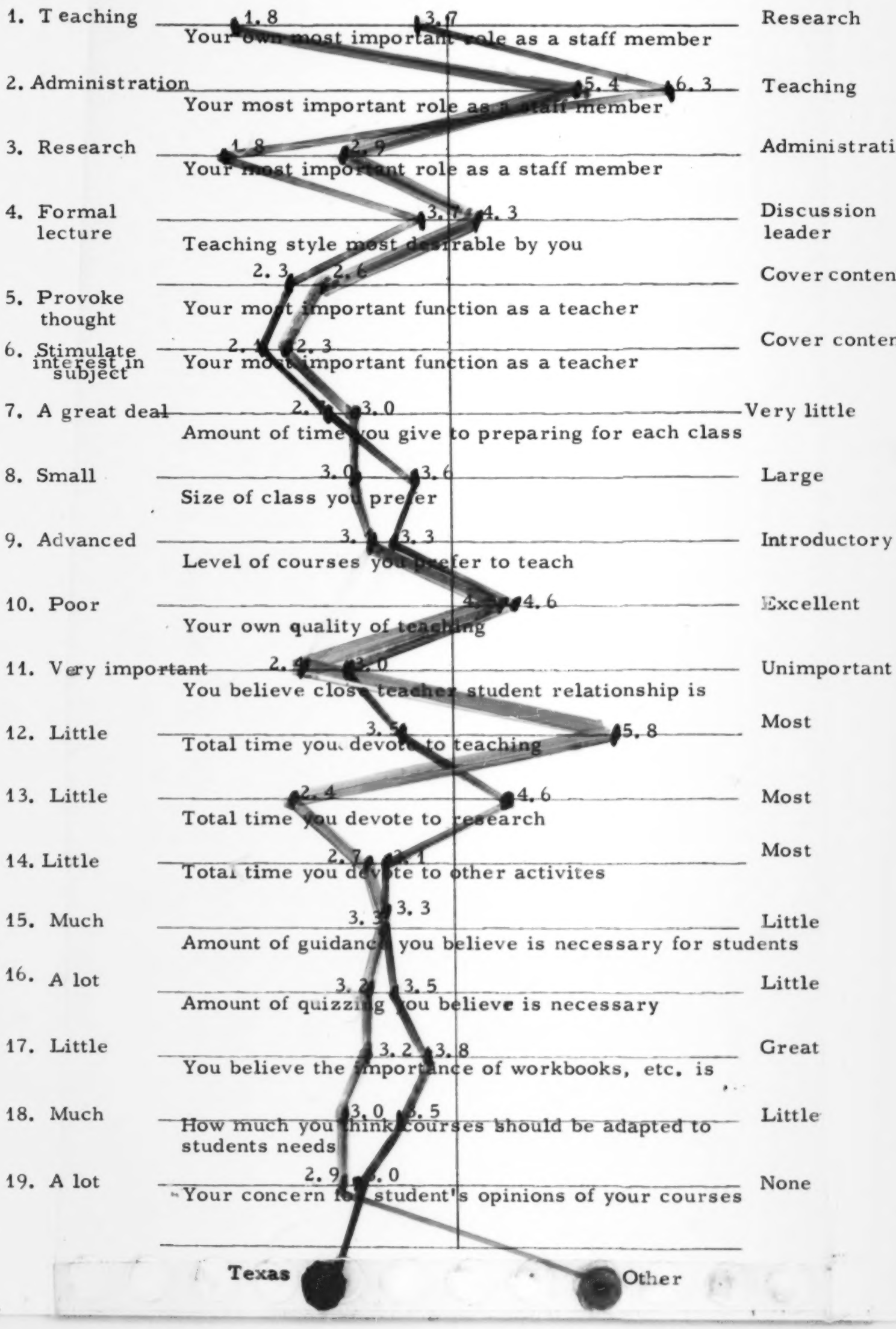


Figure III B 5 b

Comparison of Lectures and T. V. Presentation

Compare the TV course with which you are connected with a lecture course in the same subject and by a competent lecturer.

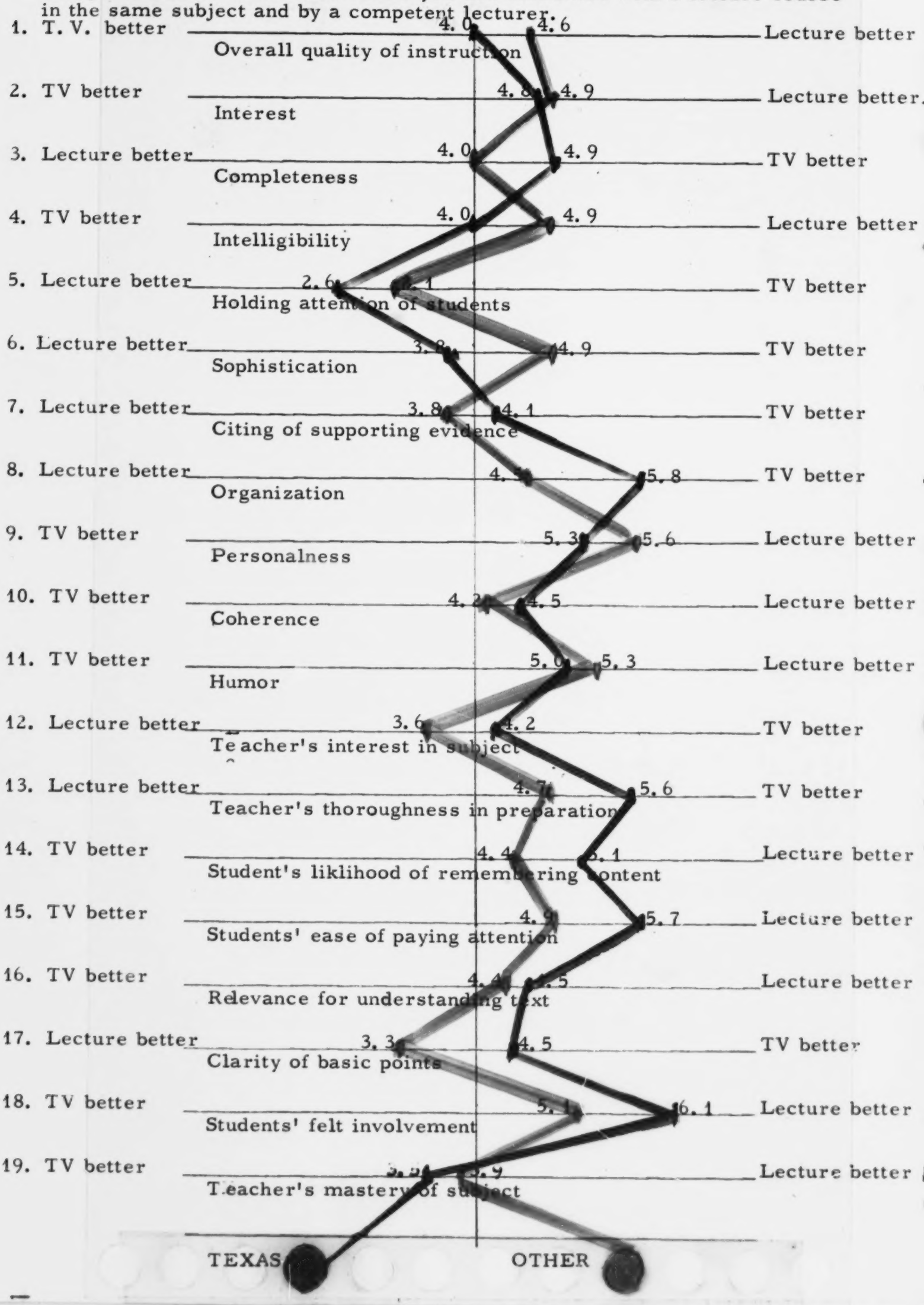


Figure III B 6 a

Comparison of PhD. and Non-PhD.

Television Teachers

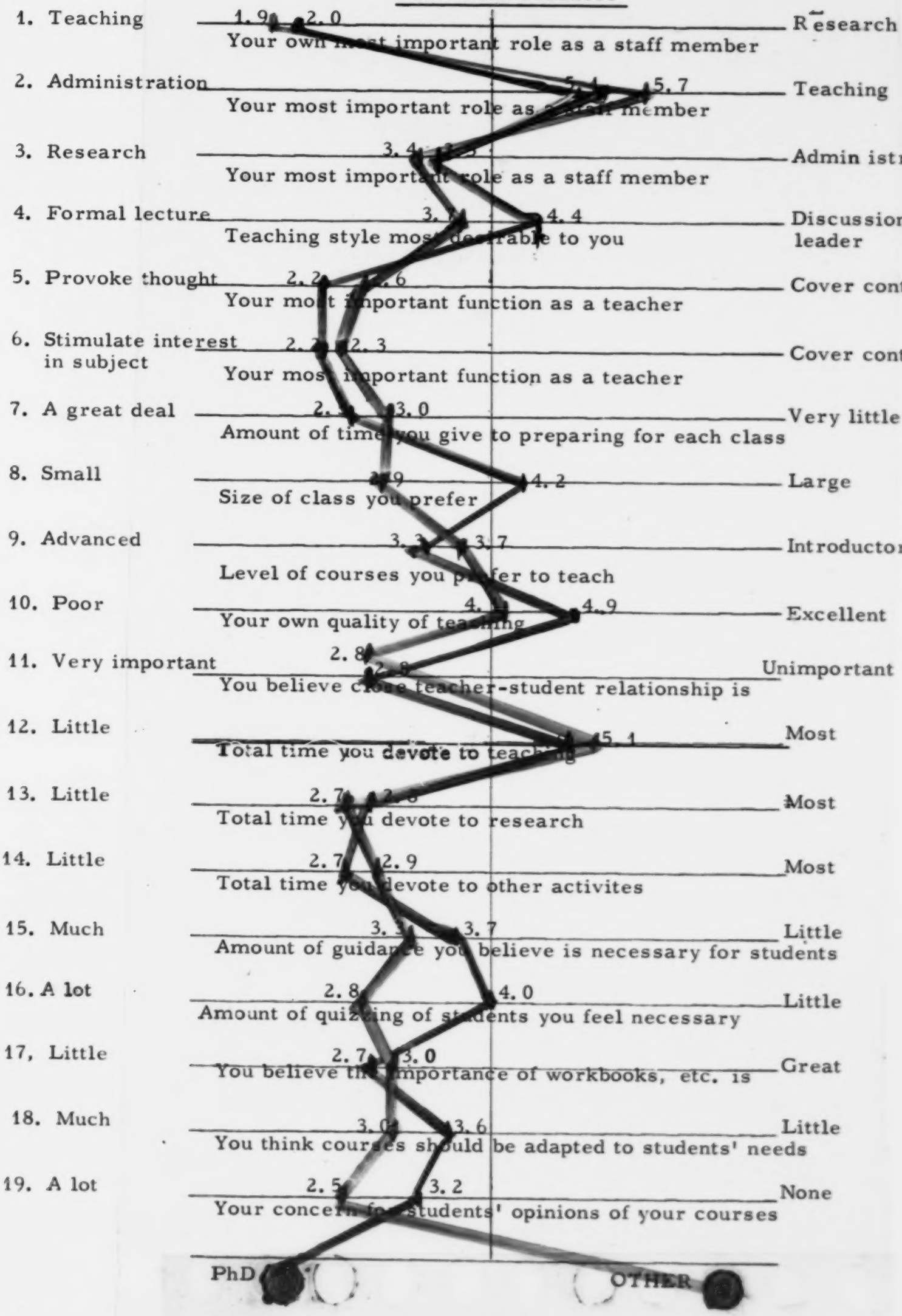


Figure III B 6 b
Comparison of PhD. and Non-PhD. in Regard to Specific TV Courses

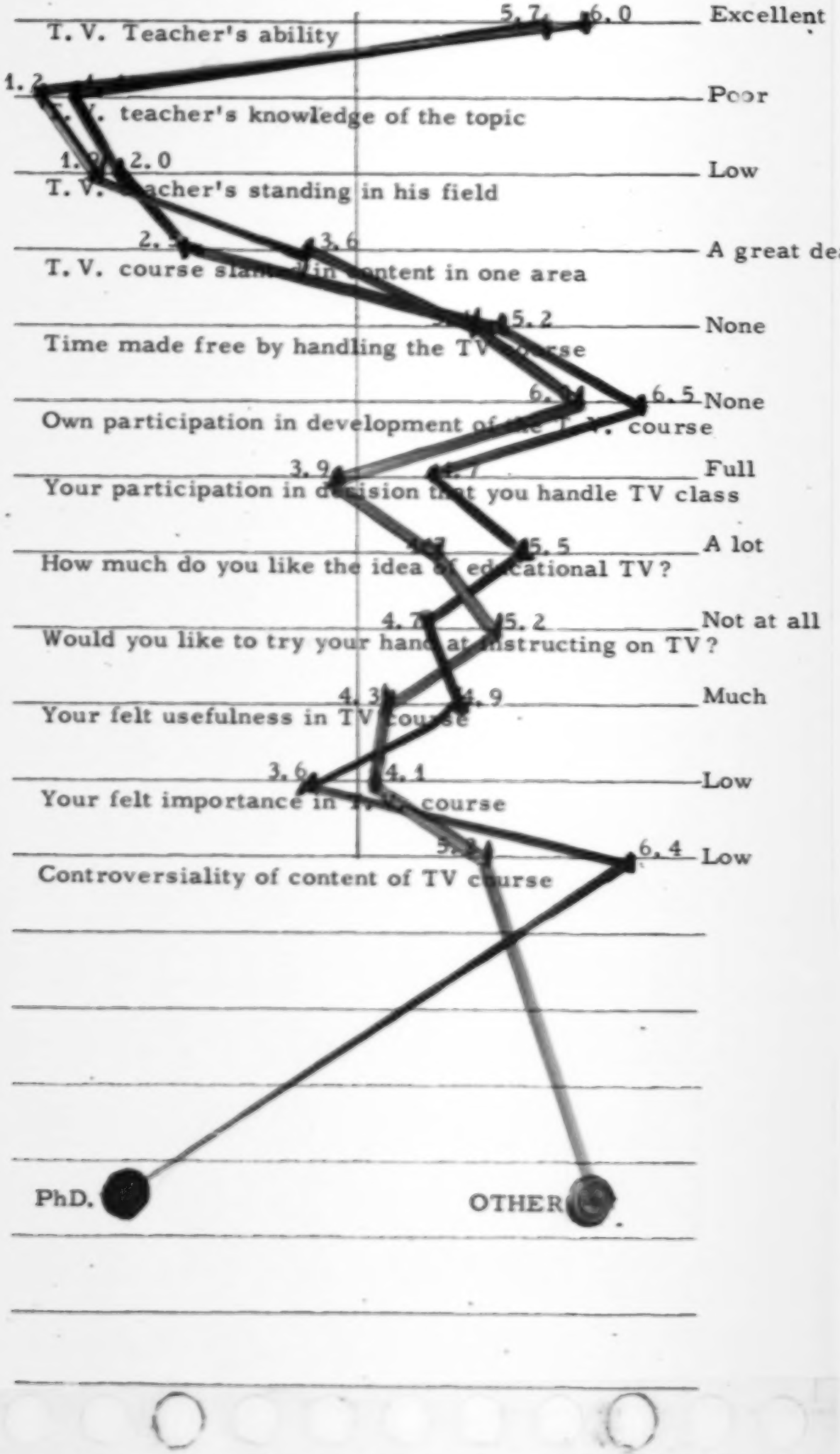
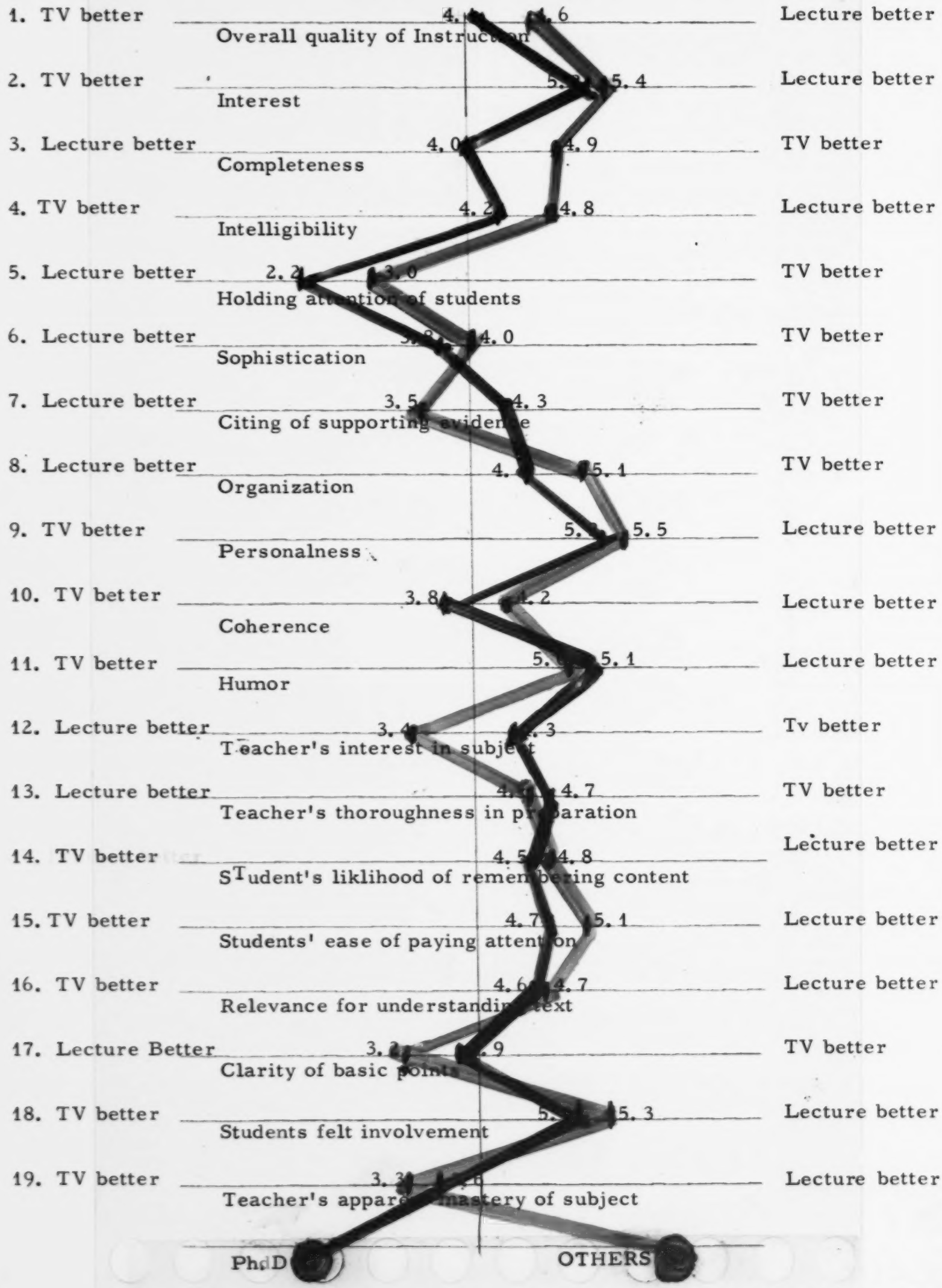


Figure III B 6 c

Comparison of Lectures and TV Presentation by PhD. s and Non-PhD. s



of 15 who held the PhD. degree and another group of 36 who did not. Figure III B 6 presents data on the way the two groups conceive of themselves in academic roles. Again, there is no significant difference. The data however, does show some signs of what may be regarded as generally increased security on the part of individuals with the PhD. degree. They are more involved in administration than are their non-PhD. colleagues. They are more involved in administration of advanced courses for which they frankly admit that their teaching is at a rather high level of competence. However, no one of the 12 items dealing with response to the specific course shows a statistically significant difference between those who hold the PhD. degree and those who do not. (see Fig. III B 6 a, III B 6 b and III B 6 c)

C. Summary

1. Our 51 teachers tend to see themselves functioning primarily as benign and kindly mentors who value highly the personal, intimate and mutually stimulating intellectual relationships with their students.

2. The monitoring teachers tend to agree that the instructors of the television courses had an excellent knowledge of their fields, a high standing in their particular disciplines and were high in their abilities to teach. Other than this, the instructors who monitored had few kind words to say about specific courses on ITV.

3. When asked about advantages of televised instruction, the teachers reported that the television courses were well organized, were characterized by clarity of presentation and were possessed of good visual aids. None of these attributes were specifically regarded by the teachers as pedagogically vital. They most frequently mentioned the disadvantage of "impersonality."

4. The degree to which our individual teachers felt themselves involved in research has no apparent bearing on attitudes toward instructional TV. The individual who researches but who takes on teaching also still regards his teaching as a function of prime importance.

5. Of those who actually instructed on TV, almost all reported that they missed initially the personal face-to-face feedback from students. All reported also, that they learned to get along without such feedback and were eventually able to imagine the response of their students.

6. The majority of those who actually instructed on television,

"Sprecken Sie die Deutsch?" in real native dialect is part of the conversation between TEMP students taking "Focus on German" and native speakers used for accent demonstrations.

reported that they felt their colleagues aggression or hostility toward them. They said they were treated somewhat as traitors to the cause. The cause against which they collaborated with the enemy, being, "proper classroom teaching."

IV TEMP Student Reaction to Instructional Television

In January 1962, questionnaires were mailed out to the instructors in each course being taught over the TEMP network. Eight courses were then being offered: German, American History, Chemistry, Psychology, The Great Plains, Music Appreciation, Science for Elementary Teachers and Algebra.

The questionnaire form contained space for the recording of the customary data plus 45 attitudinal items to which the student was asked to respond. His responses were made on a six-point scale ranging from Highly Agree (HA), Agree (A), Slightly Agree (SA) to Slightly Disagree (SD), Disagree (D), Highly Disagree (HD). This is the same scale used in the California F scale and other well-known attitudinal and personality research instruments.

At the time the questionnaires were mailed out, the total enrollment in all TEMP courses was something over 3700. The return questionnaires from all institutions in all courses totaled 1936. Of this number, 1829 were sufficiently complete to code and use.

Table IV 1, presents data comparing the sample of recorded questionnaires with the population from which the sample was drawn. These data indicate the sample to be non-representative in some respects. The returns from institution #1 were relatively low, while those from institutions # 7 and # 8 were relatively complete. With respect to returns from various courses, there was only one potentially important difference between the sample and the population: the sample contained relatively few returns from students taking course # 5.

The fact that the sample does depart somewhat from representiveness must be borne in mind in interpreting findings. Perhaps the most serious shortcoming of the sample is the fact that all of the Catholic institutions are more heavily represented in the sample than in the population. Where only 32.6% of the total TEMP enrollment actually came from Catholic schools, 50.8% of our sample came from Catholic institutions.
(see Table IV 1, IV 2)

Table IV 1

Characteristics of Students Returning Questionnaires

Male	930
Female	877

Freshmen	1004
Sophomore	492
Junior	203
Senior	105

Reported Grade Point Average on All College Courses

A	35
B	909
C	702
D	75

Reported Probable Grade in This Course

A	322
B	749
C	551
D	135

PRECEDING PAGE MISSING

Table IV A 1

Responses of 1829 TEMP Students to 45 Attitudinal Items on Instructional TV

ITEMS	Per cent responding in each category						Mean on 6 point scale
	HA 1.	A 2.	SA 3.	SD 4.	D 5.	HD 6.	
1. Given a choice between taking the same course from the same instructor on TV or in a large lecture class, I'd choose the TV.	10.5	20.6	13.1	11.0	24.2	20.2	3.77
2. Instruction by TV is especially bad because students should have personal contact with the teacher who will be giving the exam	19.4	26.4	29.8	15.3	16.0	3.99	2.93
3. TV instruction is especially poor in that students should have a teacher in the class with them to make them pay attention.	3.6	7.2	11,7	12.7	41.3	23.1	4.49
4. Instruction on TV is likely to be better than live instruction because the serious student has fewer distractions in TV class than in other classes.	4.7	14.3	16.1	18.2	29.4	17.2	4.04
5. TV instruction is likely to be poor because the TV instructor can't know anything about the personal problems of his students	12.7	26.1	22.1	12.6	13.8	6.2	3.15
6. TV instruction represents an attempt to save money on teaching staff.	4.4	13.2	13.5	15.5	37.4	13.9	4.04
7. TV instruction is objectionable in that the student can't learn much about the personal characteristics of the instructor	3.1	11.9	16.3	17.2	34.6	15.0	4.07
8. Although some students may dislike TV instruction, I myself think it a fine idea.	8.0	19.4	18.9	11.8	19.7	20.9	3.75
9. If a friend of mine had a choice of taking this course either over TV or in a large lecture section, I'd recommend he take it over TV.	8.6	17.1	15.6	11.2	25.2	20.9	3.86
	Highly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Highly Disagree	

Table IV A 1

Responses of 1829 TEMP Students to 45 Attitudinal Items on Instructional TV

ITEMS	per cent responding in each category						Mean on 6 point line
	HA	A	SA	SD	D	HD	
10. Seriously interested students will probably learn more from a televised course than from a lecture course.	6.0	12.1	15.8	21.0	28.1	15.4	4.11
11. This televised course is probably as good as any course in this subject taught anywhere in the country	7.9	25.3	16.6	13.6	20.7	13.8	3.50
12. During the semester there were many questions I wanted to ask the instructor on television	27.2	33.2	20.0	7.8	9.5	1.1	2.39
13. Material presented in a lecture is easier to remember than material presented on TV.	17.4	28.4	17.6	16.2	14.8	4.4	2.92
14. One serious difficulty with televised instruction is that the television teacher does not give hints about what questions will be given on exams.	8.5	20.3	22.0	15.6	24.4	7.3	3.44
15.I find that I cannot truly respect a teacher unless he is there in class in person.	2.6	5.5	8.4	13.6	40.2	28.4	3.76
16. One advantage of television is that it can make points clearer through the use of visual aids and demonstrations.	23.8	35.4	17.0	7.4	10.1	5.1	2.57
17. I dislike classes in which I can't ask questions of the teacher.	23.8	31.1	24.8	8.4	8.9	2.0	2.50
18. I found this televised course easier than most college courses I've had.	2.5	8.7	12.9	19.7	32.2	22.3	4.32

Table IV A 1

Responses of 1829 TEMP Students to 45 Attitudinal Items on Instructional TV

ITEMS	per cent responding in each category						Mean on 6 point line
	HA	A	SA	SD	D	HD	
19. The local teacher who sits in on the television course obviously dislikes it.	4.8	7.4	13.8	18.8	34.7	16.5	4.08
20. TV instruction might be good for some students, but as for me, I'm strongly opposed to it.	19.4	16.3	14.3	15.9	22.7	10.2	3.33
21. The impersonalness of television instruction makes me dislike it.	4.9	14.3	21.2	18.1	31.4	8.4	3.77
22. A serious difficulty with television instruction is that it does not allow students to take notes	8.4	13.7	14.4	18.5	30.9	18.3	3.95
23. If a friend of mine had a choice of taking this course over TV or in a lecture section, I'd recommend that he take the lecture section.	22.8	29.7	14.4	13.3	13.5	4.7	2.75
24. A serious difficulty with television instruction is that the student cannot learn what the television instructor thinks is important.	8.6	19.8	20.9	17.9	26.0	5.0	3.43
25. For me, television just naturally seems better for entertainment than for learning.	8.8	17.8	19.1	18.9	26.3	7.4	3.52
26. Students who are seriously interested in the subject would probably learn more in a lecture course than from a televised course in the same subject.	15.8	29.2	17.8	15.5	16.0	4.0	2.94
27. Almost any kind of television program sort of hypnotizes me so I can't help paying attention.	1.5	5.2	14.1	19.0	39.7	18.9	4.41

Table IV A 1

Responses of 1829 TEMP Students to 45 Attitudinal Items on Instructional TV

ITEMS	per cent responding in each category						Mean on 6 point line
	HA	A	SA	SD	D	HD	
28. During the semester I felt that I was getting pretty well acquainted with the instructor on television.	2.7	19.2	26.8	18.0	23.0	8.4	3.57
29. In most of my classes I often ask questions of the teacher.	10.1	34.2	27.0	12.8	12.6	1.9	2.85
30. I feel that I have learned more from this televised course than from many courses I've had in college	15.9	6.6	13.8	20.9	31.0	24.1	4.34
31. It is not a good thing for this institution to try to import instructors via television to teach its courses.	9.0	14.9	16.4	22.6	25.5	9.7	3.64
32. Televised instruction is likely to be humorless instruction.	6.1	18.5	17.9	21.3	25.7	8.9	3.64
33. I feel that the television instructor is a complete stranger to me.	7.3	17.1	19.4	27.0	23.6	4.4	3.52
34. A lecture course is likely to be more difficult than the same course taught on TV.	2.2	12.6	15.3	26.9	32.7	8.7	3.96
35. Presentation of material by a lecturer is likely to be more orderly and thorough than is a televised presentation.	6.7	14.5	10.3	25.7	30.1	10.8	3.85
36. This televised course was as difficult as any I've ever had.	1x.2	26.2	16.5	18.0	18.4	5.7	3.12

Table IV A 1

Responses of 1829 TEMP Students to 45 Attitudinal Items on Instructional TV

ITEMS	per cent responding to each category						Mean on 6 point line
	HA	A	SA	SD	D	HD	
37. Through the use of television it is possible for students anywhere to be exposed to the country's best teachers	29.3	48.5	13.7	3.7	2.5	.7	1.99
38. Teachers selected to present courses on television are likely to be better than those who are not selected.	13.9	38.0	19.2	10.4	12.1	4.6	2.78
39. Although there may be some advantages in televised instruction, there can be nothing better than personal contact with a classroom teacher.	23.5	31.8	25.6	10.5	5.9	1.2	2.42
40. This institution certainly has no need to import teachers from other schools.	14.9	24.4	16.9	20.3	15.0	6.0	3.07
41. I find it very difficult to pay attention to televised instruction.	11.6	16.7	20.4	16.6	26.9	6.5	3.46
42. I think that the use of television instruction can make a significant improvement in instruction on this campus.	4.3	16.1	27.3	22.4	20.0	7.4	3.53
43. Television instructors are likely to be more thoroughly prepared than are classroom teachers.	11.8	30.6	30.7	13.3	11.6	3.3	2.87
44. I often felt that the telvision instructor was talking directly at me.	2.2	13.3	20.6	23.6	27.9	10.7	3.63
45. I find I can't really learn a subject unless I have frequent personal contact with the teacher.	5.9	14.5	23.4	24.6	25.0	5.0	3.59

A. Responses of All Students to All Attitudinal Items

Table IV A 1, contains data on the responses of all students to all attitudinal items on the TEMP questionnaire. For each item there is the mean of 1829 responses, with the mean calculated on the basis of treating the six categories of responses as a six point scale, i. e. HA=1, A=2, etc. (see Table IV A 1)

B. Similarities Between Student and Teacher Reactions to ITV

One of the most frequent complaints students have about televised instruction corresponds to the most frequent teacher complaint: " that television is impersonal. "

If the student has not had any televised instruction, he is afraid that ITV will remove him from personal contact with the teacher. Interviews, questionnaires and conversations all add up to the conclusion that the student wants a personal relationship with the teacher. We have seen in prior data that teachers feel the same way.

Both students and teachers seem to have a picture of personal discourse both comfortable and stimulating. They report that television cuts off this possibility of person-to-person relationship. In actuality, most teachers will acknowledge that such personal contact does not occur in large lecture sections, and that many students do not respond even to seminar situations where there can be intimate exchange between teacher and students.

Our data are in line with the general interpretation suggested in the literature previously cited: many students want a personal relationship with a mature, benevolent older person, who will take them by the hand and lead them painlessly into the ways of higher learning. This idealistic stereotype may also be a motivating factor for many teachers.

The personal relationship between the student and the teacher is an important matter, regardless of the idealistic concepts. It is this kind of relationship that will deserve intensive study on the part of educational researchers.

1. Data on Advantages and Disadvantages of ITVfrom Questionnaire

On finishing the questionnaire, each student was asked to respond to the following questions: 1) "On the basis of your experience with televised instruction, what would you say are its chief advantages?" 2) "Its chief disadvantages?"

They were given an opportunity to write down the advantages and disadvantages. Responses were coded in a system of categories which

seemed to best fit the data. (see Table IV B 1)

A total of 1829 students completed this questionnaire, and their responses are arranged in the order of frequency of "advantages" first, and "disadvantages" second.

Among the mentioned advantages, one cannot find any item that seems likely to produce for the student any highly charged involvement in the educational process, nor to represent any full commitment to anything.

Amond the listed disadvantages, one cannot find any item that exceeds in frequency the complaint that, "questions cannot be asked." Perhaps this fact stands for more than it conveys. When the number of students (790) who mention as a disadvantage the fact that the teacher cannot react to students, and further with the 150 who report that television is too impersonal because the student cannot react to the teacher, we have evidence perhaps for a comparably strong desire of both student and teacher for an intimate involvement in the educational process.

There are ways now known, and more may be developed to produce televised instruction so as to reduce the impression of impersonality. By using close-up shots of the instructor's face, and the exposure of his unique facial expressions, one may increase the feeling of intimacy with the teacher.

Another disadvantage which ranks high among the list is the observation that TV moves too rapidly , so that the student cannot take notes and keep up with the lecture. It is true that the television instructors universally report that they cover more material per unit of time over television, than they do in lecture class. This kind of speed, pressure and required efficiency may really overwork students or may demand more of their attention span than can be realistically expected.

Perhaps attention should be given the possibility of brief interludes during the television presentation for note breaks, or for the opportunity to stand up and to stretch tired or cramped muscles.

C. Summary

1. In absolute terms it has been shown that the students displayed no great enthusiasm for televised instruction. In general, responses to the clearly evaluative items fall slightly on the negative side of neutral.

2. About half of our responding students report that they would choose televised instruction in preference to large lecture classes if the instructor were the same.

Figure IV C 1

Responses of 1845 TEMP students on Items Concerning the Difficulty of TV Courses

ITEMS	HA	A	SA	SD	D	HD	Mean on 6 point scale
13. Material presented in a lecture is easier to remember than material presented on TV .	17.4	28.4	17.6	16.2	14.8	4.4	2.92
18. I found this televised course easier than most college courses I've had.	2.5	8.7	12.9	19.7	32.2	22.3	4.32
26. Students who are seriously interested in the subject would learn more in a lecture course than from a televised course in the same subject.	15.8	29.2	17.8	15.5	16.0	4.0	2.94
34. A lecture course is likely to be more difficult than the same course taught by TV	2.2	12.6	15.3	26.9	32.7	8.7	3.96
36. This televised course was as difficult as any I've ever had.	12.2	26.2	16.5	18.0	18.4	5.7	3.12

Table IV C 2

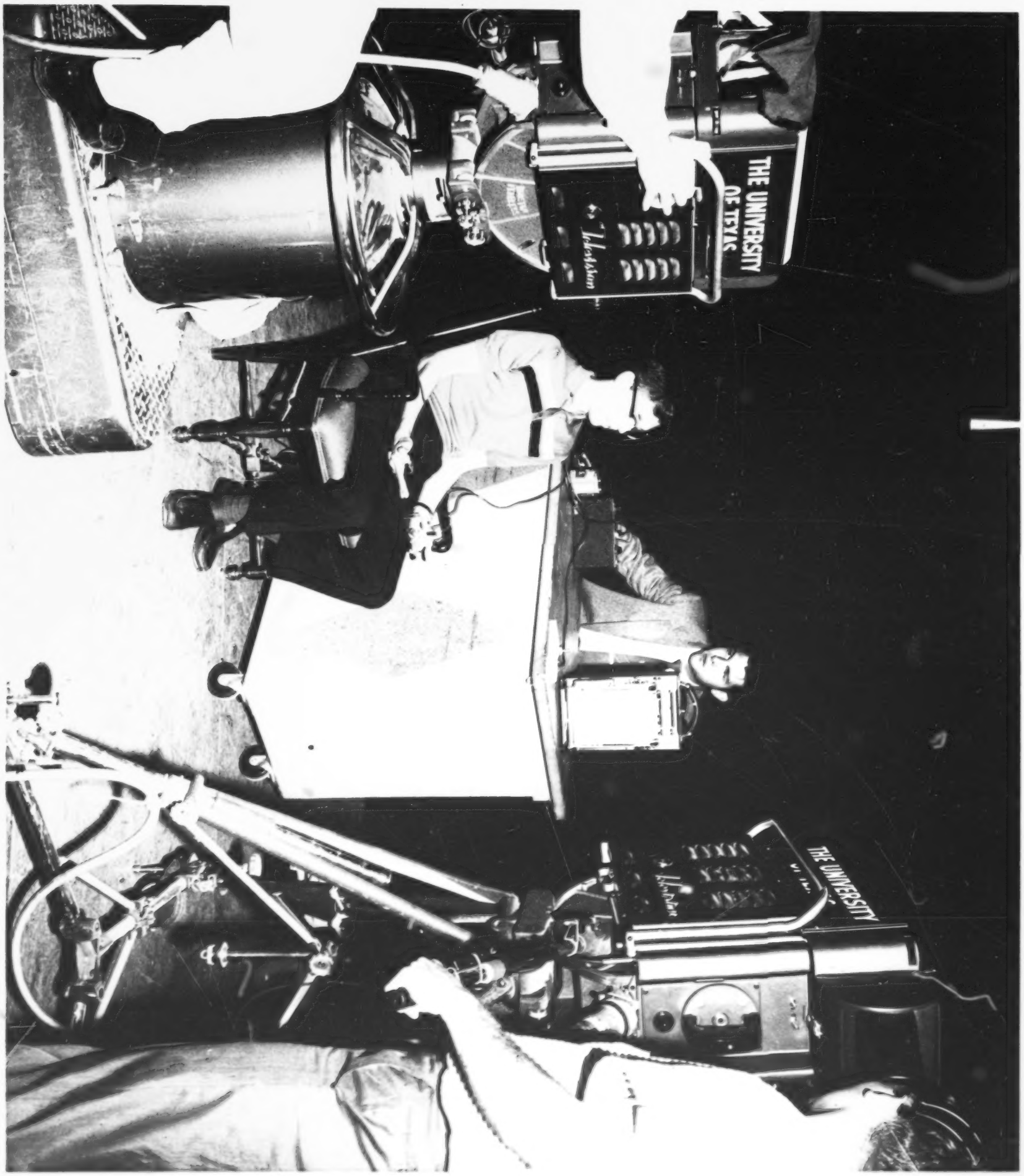
Free Response Data for Questions on Advantages and Disadvantages of Televised Instruction

N = 1829 TEMP students

Rank	N	Advantages Mentioned
1	785	Visual aids good, helpful
2	652	Get better teachers on TV
3	534	TEacher better prepared, better organized
4	356	Saves teacher time and saves money
5	328	Efficient, no time wasted, no interruptions
6	228	More thorough in coverage
7	185	Easier to pay attention
8	114	Easier for students to prepare
9	94	Uniformity; everybody gets same course
	310	Miscellaneous
Total	3586	

		Disadvantages Mentioned
1	790	Can't ask questions in class
2	721	Moves too rapidly; can't keep up
3	505	Too impersonal (general)
4.	459	TEchnical difficulties; picture and sound poor
5	419	Gets boring, attention drifts
6	297	Test anxiety; can't tell what will be on exam
7	207	Impersonal; teacher can't react to students
8	171	Confusion in third hour; local instructor confuses issues
9	150	Impersonal; student can't react to teacher
	546	Miscellaneous
Total	4265	

Laboratory experiments can always be successful, always seen with detailed close-ups via TEMP. "Introduction to Psychology", a TEMP initial course video-tapes experiment in sensory reaction.



3. About half of the students agreed with the proposition that the televised course they took, "is as good as any course in this subject anywhere."

4. Students are not inclined to recommend TV instruction to their friends.

5. A large proportion of the responding students (90%) agree that television allows them to be exposed to the "country's best teachers." A decided majority, (70%) also agree that the teachers selected to present television courses are likely to be better than teachers who are not selected.

6. Among the disadvantages of ITV, the item given the greatest weight by students was "no personal contact with the teacher who is to give the exam."

7. A large percentage of our students (approximately 45%) agree that television instruction is likely to be humorless instruction.

8. Fifty-six percent of the students reported that the ITV course they were taking was "as difficult as any I have had." (see Fig. IV C 1)

9. When given a free response question about the disadvantages and advantages of ITV, our students listed 4265 disadvantages and 3586 advantages. (fig IV C 2)

10. The data on perceived disadvantages point up also the need to explore the problem of optimal pacing of televised instruction.

D. Point Biserial Correlations of Motivating Factors and Student Acceptance of ITV

In addition to the foregoing analysis of the responses of the students, the data from the assessment forms were programmed for an electronic computer under the supervision of Dr. Wayne Herron of the Hogg Foundation for Mental Health. The Hogg Foundation also furnished other facilitation for the computation process. The use of the computer made it possible to examine the relationship between any variable and any other of the variables appearing on the questionnaire in terms of point biserial correlation coefficients. (see Tables IV D 1 through IV D 7)

The data obtained are listed in tabular form. A synopsis of the intercorrelations are listed in paragraph E. The variables examined are as follows:

1. Intercorrelations of Evaluations of ITV
2. Differences of Sexes in Attitudes Toward TV Instruction
3. Student's Evaluation of TV Instruction by Institutions

Table IV D 1
Intercorrelations of Evaluations of Instructional TV

ITEMS	1.	8.	9.	11.	20.	23.
1. Given a choice between taking the same course from the same instructor on TV, or in a large lecture class, I'd choose the TV.	1.00	.67	.74	.30	-.64	-.68
8. Although some students may dislike TV instuction, I myself think it a fine idea.	.67	1.00	.74	.41	-.81	-.74
9. If a friend of mine had a choice of taking this course either over TV or in a large lecture section, I'd recommend that he take it over TV.	.74	.74	1.00	.38	-.70	-.76
11. This televised course is probably as good as any course in this subject taught anywhere in the country.	.30	.40	.38	1.00	-.40	-.39
20. TV instruction might be good for some students but as for me, I am strongly opposed to it.	-.64	-.81	-.70	-.40	1.00	.75
23. If a friend of mine had a choice of taking this course over TV. or in a lecture section, I'd recommend that he take the lecture section.	-.68	-.74	-.76	-.38	.75	1.00

All figures represent point biserial correlations coefficients. All r's are statistically significant above .001 level.

TABLE IV D 2

Differences of Sexes in Attitudes Toward Television Instruction

The following table contains all point biserial correlations greater than . 10 between sex and attitudinal items. N = 1245; 631 boys and 614 girls. Negative correlations mean a disproportionately small number of girls answered the items

ITEM	Biserial r with sex
6. TV instruction represents an attempt to save money on teaching staff.	-. 15
11. This televised course is probably as good as any course in this subject taught anywhere in the country.	. 10
15. I find that I cannot truly respect a teacher unless he is there in class in person.	. 12
19. The local teacher who sits in on the television course obviously dislikes it.	. 11
32. Televised instruction is likely to be humorless instruction.	. 13

All r's are significant at > . 01

Table IV D 3

Students Evaluation of TV Instruction by Institutions

ITEMS	Institutions listed by numbers one through eleven						
	1.	2.	3.	4.	5.	6.	
1. Given a choice between taking the same course from the same instructor on TV or in a large lecture class, I'd choose the television class.	.03	.03	.00	.00	.01	-.02	
	7.	8.	9.	10.	11.		
	.05	-.02	.01	(.11)	-.03		
8. Although some students may dislike TV instruction, I myself think it is a fine idea.	.04	.07	.00	-.01	.01	.00	
	.05	-.02	.01	(.12)	-.03		
9. If a friend of mine had a choice of taking this course either over TV or in a large lecture class, I'd recommend that he take it over TV.	.03	-.03	-.02	.00	.03	.01	
	.07	.02	-.04	(.16)	.02		
11. This televised course is probably as good as ny course in this subject taught anywhere in the country.	(.11)	-.01	-.06	(.12)	-.06	.01	
	-.04	-.04	.09	(.17)	.02		
19. The local teacher who sits in on the television section obviously dislikes it.	-.02	.04	.08	-.02	.01	.04	
	.05	.02	(.19)	.06	.04		
23. If a friend of mine had a choice of taking this course over TV or in a lecture section, I'd recommend that he take the lecture section	.00	-.07	.01	.00	.01	.00	
	-.08	.01	.01	(.12)	.01		
30. I feel that I have learned more from this televised course than from any courses I've had in college.	-.02	.02	-.06	-.01	-.01	.02	
	(.12)	.03	.03	(.13)	.00		

Magnitude of r's in the table is proportional to the relative number of students agreeing with the item.

A correlation coefficient of .00 represents an equal number os students agreeing and disagreeing with the item at one institution.

Statistically significant r's (> .05) are circled in the table.

Table IV D 4

Individual Courses Related to Student's Attitudes

ITEM	COURSES #1	#2	#3	#4	#5	#6	#7	#8
1. Given a choice between taking the same course from the same instructor on TV or in a large lecture class, I'd choose TV.	.08	-.09	.00	-.05	.01	.01	-.10	.09
8. Although some students may dislike TV instruction, I myself think it a fine idea.	.10	-.10	-.02	-.05	.02	.02	-.08	.05
11. This televised course is probably as good as any course in this subject taught anywhere in the country.	.01	-.01	.01	.09	.03	-.02	.00	-.05
20. TV instruction might be good for some students but as for me, I am strongly opposed to it.	-.11	.11	.07	.06	-.01	-.03	.06	-.08
23. If a friend of mine had a choice of taking this course over television, or in a lecture section, I'd recommend the lecture.	.09	.11	.02	.04	-.02	.02	.08	-.09

All r's are point biserial correlations.
Any r of .062 has p $\leq$ .05
Any r of .081 has p $\leq$ .01
Any r of .104 has p $\leq$ .001

Table IV D 5

Academic Rank and Evaluation of Instructional Television

Evaluative Item	Correlation With Academic Year
1. Given a choice between taking the same course from the same instructor on TV or in a large lecture class, I'd choose TV.	-.21
8. Although some students may dislike TV instruction, I myself think it a fine idea.	-.08
9. If a friend of mine had a choice of taking this course either over TV or in a large lecture section, I'd recommend that he take it over TV.	-.08
20. TV instruction might be good for some students but as for me, I am strongly opposed to it.	.12
23. If a friend of mine had a choice of taking this course over TV or in a lecture section, I'd recommend that he take the lecture section.	.08
30. I feel that I have learned more from this televised course than from many courses I've had in college.	-.04
32. Televised instruction is likely to be humorless instruction.	.16

All r's are point biserial correlations

Any r of .062 has $p \leq .05$

Any r of .081 has $p \leq .01$

Any r of .104 has $p \leq .001$

Table IV D 6

Students Judgements of Difficulty of Television Courses

ITEMS	#1	#2	#3	#4	#5	#6	#7	#8
10. Seriously interested students will probably learn more from a televised course than from a lecture course.	.00	-.02	.07	.06	.02	.01	-.04	-.08
18. I found that this televised course was easier than most college courses I've had.	.11	-.09	-.10	-.05	.12	-.19	-.07	.16
36. This televised course was as difficult as any I've ever had.	-.13	.12	.12	.05	-.10	.14	.08	-.15

r's are point biserial correlations

Any r < .062 has p $\overline{<}$ .05

Any r < .081 has p $\overline{<}$ .01

Any r < .104 has p $\overline{<}$ .001

Table IV D 7

Perceived "Personalness" of Courses

ITEM	#1	#2	#3	#4	#5	#6	#7	#8
21. The impersonalness of television instruction makes me dislike it.	.00	.01	.01	-.05	-.02	-.02	.02	.04
28. During the semester I felt I was getting pretty well acquainted with the instructor on television.	.08	-.12	-.05	.07	.00	.01	-.05	.00
32. Television is likely to be humorless instruction	-.17	.19	.08	.02	.02	.06	-.03	-.09
33. I feel that the television instructor is a complete stranger to me.	-.13	.13	.03	.01	.05	.03	.01	.01
44. I often feel that the television instructor is talking directly to me.	.04	-.08	.02	.07	.01	.03	.07	-.02

All r's are point biserial correlations

Any r of .062 has p $\leq$ .05

Any r of .081 has p $\leq$ .01

Any r of .104 has p $\leq$ .001

4. Individual Courses Related to Students' Attitudes

5. Academic Rank and Evaluation of ITV

6. Students' Judgements of Difficulty of TV Courses

7. Perceived "Personalness" of Courses

E. Personality Traits and ITV

On the basis of the data, it appears reasonable to think of two different divisions of students; each wanting an inter-relationship with the teacher. Exploring this possible conclusion, the following generalizations fit the pattern of the data cited above. (see Tables IV D 1 through IV D 8)

1. The more dependent the student, the more his dislike for ITV.

2. The more frightened the student is of impending examinations, the more dislike he will register for televised instruction.

3. The more the student needs daily reinforcement, reiteration and encouragement from the instructor, the less he will like instructional television.

4. The more the student wishes to manipulate the instructor to the student's advantage, the less the student will like educational television.

F. Student Reaction to Live and Televised Psychology Courses

In the Spring semester of 1961, the instructor who had played the major role in preparing the psychology series for TEMP, also presented the introductory psychology course in a lecture section of approximately 240 students at the same hour the televised division of the course was being presented in another building. He was thus actually teaching the same course in two different buildings at the same time.

The lecture section met at 10:00 a. m. on Mondays and Wednesdays in a large lecture room with a capacity about two times the population of the class.

The televised sections met at the same time in three rooms in another building, the largest of which had a capacity of 80 students and about 20 students per television set. All sections of the classes met in this situation two times per week. Their third hour in class each week was taught by teaching assistants who also monitored the televised presentation.

An attempt was made to keep pace in the lecture section with the televised presentation. This turned out to be very difficult. In spite of the attempt to duplicate all of the demonstrations that were presented in the televised series, some were impossible to arrange and others did

not work as well as they did under controlled conditions of the televised series. All students were given identical examinations at the same time.

This arrangement of simultaneous live and televised courses by the same instructor made it possible to administer to both the lecture and the TV students, some fairly involved assessment forms. These were completed during the first week of the semester. The concepts assessed were:

1) human beings; 2) I, myself; 3) psychology; 4) psychology instruction; 5) psychologists, and 6) Dr. _____, instructor.

The concepts were listed at the top of the page and students were asked to respond to each concept by making appropriate marks on a number of bi-polar dimensions beneath it.

> Example: For the concept, "human beings", the student was to mark on a continuum extending from simple to complicated, and on another continuum from dull to bright, and so on through 26 continuums.

In addition to the semantic differential forms, other forms were administered to the students during the semester. At the end of the semester, the semantic differential forms were again administered to the students. In addition, the students were asked to register their attitudes toward a number of aspectes of the course on other forms. In this array of attitudinal items occurred a ten-item version of the California F. Scale. Also, at the terminal testing session, a paired comparison form on teacher characteristics was administered to both groups of students.

G. Grades In Televised and Lecture Sessions

Table IV F presents data on the mean grades on two hour exams and on final exams for students in the lecture section and in the televised sections. As reported earlier, the students were administered identical objective examinations at the same hour. In line with data presented throughout this report, no statistically significant differences were found between the grades of students in the lecture section and the grades of the students who took the course by ITV. (see Table IV F)

H. Attitude Change Toward ITV After Exposure

A project which was undertaken during the time the previously mentioned instructor was simultaneously teaching introductory psychology in a lecture section and on ITV, was the rating by students from the lecture section of ITV. These students had seen none of the TV presentations

Table IV F 1

Student Grades, Lecture and Televised Sections

First Hour Exam	Mean, lecture	Mean, TV
First hour exam	28.8	27.8
Second hour exam	35.6	33.1
Final exam	119.6	118.4

of the subject.

At the close of a lecture on sensation to the lecture class, students were invited to voluntarily appear that evening in the room in which the television course was regularly given. The students who volunteered, (25 on one occassion and 42 on another) were asked to fill out an assessment form evaluating the television presentation of the same subject on which they had heard a "personal" lecture that day.

Care was taken on the day of the test to make the lecture as nearly idectical to the TV presentation as possible. Special pains were taken by the instructor to cover the same verbal material. The same demonstrations were used that the students were to see later on the TV presentation.

At the beginning of the TV session, the volunteer students were asked to complete a short form asking for some information about themselves. Then they were asked to rate on a bi-polar scale their judgements about the relative superiority of television presentations and personal lectures with respect to the variables listed. For each variable, the students were initially to indicate their judgement of the relative merits of each form of teaching, on a line-scale from "television better" to "lecture better".

The students then viewed the 45 minute TV presentation. Again they were asked to complete the 19 variable semantic differential form. The result was a pronounced shift toward a more favorable judgement of televised instruction. (see Table IV G)

Figures in the first column of Table IV G, indicate the numbers of students who in filling out the assessment form before viewing the TV presentation, rated ITV as superior to the lecture method. The second column gives the number who rated TV as superior after viewing the one televised presentation. The third column indicates the number who shifted toward a more favorable judgement of ITV based on the difference between columns one and two.

J. Data Summary of Student Groups Taught Separately but Simultaneously the Same Subject by The Same Instructor

1. Students in the televised and in the lecture sections were administered two identical hour exams during the semester and an identical final. On the second of the two hour exams, the lecture students scored

Table IV G

Change of Attitudes Toward ITV After Exposure

Rated Quality	Before Viewing Students Rate TV. Superior	After Viewing	Shift Toward TV
Over all quality	17	35	18
Interest	17	35	18
Completeness	33	51	18
Intelligibility	18	33	15
Holding Attention	18	31	13
Sophistication	27	34	7
Cites supporting evidence	23	44	21
Organization	42	47	5
Personalness	6	14	8
Coherence	18	35	17
Humor	2	6	4
Teacher's interest in subject	4	17	13
Teacher's thoroughness of preparation	38	37	-1
Liklihood of remembering	14	35	21
Ease of paying attention	14	33	19
Relevance for understanding text	14	31	17
Clarity of basic points	19	37	18
Students felt involvement	6	24	18
Teacher's mastery of subject	11	19	8

Data based on semantic differential ratings before and after viewing a televised presentation on a specific topic in psychology. The same group of 67 students received a lecture as nearly identical in content as possible to the TV presentation, several hours before the TV presentation.

slightly higher than did the TV students, but the difference does not measure the .05 level of statistical significance. Nothing approaching a statistical significance was found on the first hour exam and the final exam.

2. A study of the reasons students give for taking televised or lecture courses with the same content, indicates that there is in the beginning some curiosity about television instruction, and some students signed up for the televised section to see how it functioned. More important in the students selection of a course section were matters of time, convenience and reputation of the instructor, than the fact that the section was or was not going to be televised.

3. All data so far reported in this resume of students comparative assessment of personal lecture and TV presentation, are clearly aligned with many earlier studies. The phrase, "no significant difference" when correlating any aspect of educational effectiveness of ITV and conventional lecture, seems to be the pervasive and descriptive one.

4. The numerous indications through the course of the present investigations are that personality factors have a more direct bearing on a student's acceptance or rejection of televised instruction than any other variable or factor.

V. Conclusion

The principal investigator in this study is left with two strong convictions concerning the nature of the central problems in research in this field, and the most productive strategies for attacking such problems.

Defining and dealing meaningfully with the criteria of educational progress is one of the most frequent and frustrating central problems. Until we find better ways to define and measure what it is in students we wish to see changed through educational experiences, we will not be able to make maximum meaningful assessment of the intellectual growth of any student, or of the ability of any individual teacher. The utility of objective tests in this respect is sadly limited.

The second strong conviection is that productive research in the area of higher education needs to focus on those general traits of the whole individual; traits that can be measured and defined and that have an obvious bearing on the general intelligence of the individual.

But until we have some solution in the area of criteria, research explorations are going to be less fruitful than they need to be at the college and the university levels.

"The Great White Eye"..."The Idiot Box"...'The Painless Anaesthesia"
Like other toys Man has invented for entertainment and diversion, television has become the foremost advocator of mediocrity in our social culture. True, there are moments of sheer greatness, but there are more moments of banality. Perhaps TEMP is a pioneer pilot project of an idea which will harness the potential contained in the minds of men to challenge our level of learning, and our breadth of knowledge.

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